FC-1-C1-PUS.ST25_April2002.txt SEOUENCE LISTING

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      Brandt, Kevin S.
       Wisnewski, Nancy
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 Val Arg Pro Ala Thr Glu Xaa Ala Asn Gly Cys Arg Ser Lys His Met
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Ser Cys Arg Ser Val His Phe Ile Lys Lys Ile Lys Val Gly Ala Glu 75 80 Page 6	

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aaa gat cat agg aat gat gta tat tgt tct tat ttg gga att cct tat Page 7	310

FC-1-C1-PUS.ST25_April2002.txt Lys Asp His Arg Asn Asp Val Tyr Cys Ser Tyr Leu Gly Ile Pro Tyr 65	
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- Lys Thr Thr Ser Asp Lys Lys Leu Pro Val Phe Phe Trp Val His Gly 70
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155

135

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Lys Asp Arg Val Leu Ala Met Trp Thr Asn Phe Ile Lys Asn Gly Asn 485 490 495

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<213> Ctenocephalides felis

<400> 53

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Tyr Ala Lys Pro Pro Val Gly Glu Leu Arg Phe Lys Pro Pro Gln Lys 35 40 45

Ala Glu Pro Trp Asn Gly Val Phe Asn Ala Thr Ser His Gly Asn Val 50 60

Cys Lys Ala Leu Asn Phe Phe Leu Lys Lys Ile Glu Gly Asp Glu Asp 65 70 75 80

Cys Leu Leu Val Asn Val Tyr Ala Pro Lys Thr Thr Ser Asp Lys Lys 85 90 95

Leu Pro Val Phe Phe Trp Val His Gly Gly Phe Val Thr Gly Ser

Gly Asn Leu Glu Phe Gln Ser Pro Asp Tyr Leu Val Asn Tyr Asp Val 115 120 125

Ile Phe Val Thr Phe Asn Tyr Arg Leu Gly Pro Leu Gly Phe Leu Asn 130 135 140

Leu Glu Leu Glu Gly Ala Pro Gly Asn Val Gly Leu Leu Asp Gln Val 145 150 155 160

Ala Ala Leu Lys Trp Thr Lys Glu Asn Ile Glu Lys Phe Gly Gly Asp 165 170 175

Pro Glu Asn Ile Thr Ile Gly Gly Val Ser Ala Gly Gly Ala Ser Val 180 185 190

His Tyr Leu Leu Ser His Thr Thr Gly Leu Tyr Lys Arg Ala 195 200 205

Ile Ala Gln Ser Gly Ser Ala Leu Asn Pro Trp Ala Phe Gln Arg His 210 215 220

Pro Val Lys Arg Ser Leu Gln Leu Ala Glu Ile Leu Gly His Pro Thr 225 230 235 240

					F	FC-1-	-C1-I	PUS.S	ST 2.5	Apri	1200)2 ts	ct		
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Ser	Leu	Leu	Lys 260	Lys	Met	Pro	Ala	Glu 265	Thr	Glu	Gly	Glu	Ile 270	Ile	Glu
Glu	Phe	Val 275	Phe	Val	Pro	Ser	Ile 280	Glu	Lys	Val	Phe	Pro 285	Ser	His	Gln
Pro	Phe 290	Leu	Glu	Glu	Ser	Pro 295	Leu	Ala	Arg	Met	Lys 300	Ser	Gly	Ser	Phe
Asn 305	Lys	Val	Pro	Leu	Leu 310	Val	Gly	Phe	Asn	Ser 315	Ala	Glu	Gly	Leu	Leu 320
Tyr	Lys	Phe	Phe	Met 325	Lys	Glu	Lys	Pro	Glu 330	Met	Leu	Asn	Gln	Ala 335	Glu
Ala	Asp	Phe	Glu 340	Arg	Leu	Val	Pro	Ala 345	Glu	Phe	Glu	Leu	Ala 350	His	Gly
Ser	Glu	Glu 355	Ser	Lys	Lys	Leu	Ala 360	Glu	Lys	Ile	Arg	Lys 365	Phe	Tyr	Phe
Asp	Asp 370	Lys	Pro	Val	Pro	Glu 375	Asn	Glu	Gln	Lys	Phe 380	Ile	Asp	Leu	Ile _.
Gly 385	Asp	Ile	Trp	Phe	Thr 390	Arg	Gly	Ile	Asp	Lys 395	His	Val	Lys	Leu	Ser 400
Val	Glu	Lys	Gln	Asp 405	Glu	Pro	Val	Туг	Tyr 410	Tyr	Glu	Tyr	Ser	Phe 415	Ser
Glu	Ser	His	Pro 420	Ala	Lys	Gly	Thr	Phe 425	Gly	Asp	His	Asn	Leu 430	Thr	Gly
Ala	Cys	His 435	Gly	Glu	Glu	Leu	Val 440	Asn	Leu	Phe	Lys	Val 445	Glu	Met	Met
Lys	Leu 450	Glu	Lys	Asp	Lys	Pro 455	Asn	Val	Leu	Leu	Thr 460	Lys	Asp	Arg	Val
Leu 465	Ala	Met	Trp	Thr	Asn 470	Phe	Ile	Lys	Asn	Gly 475	Asn	Pro	Thr	Pro	Glu 480
Val	Thr	Glu	Leu	Leu 485	Pro	Val	Lys	Trp	Glu 490	Pro	Ala	Thr	Lys	Asp 495	Lys

Leu Asn Tyr Leu Asn Ile Asp Ala Thr Leu Thr Leu Gly Thr Asn Pro 500 505 510

Glu Glu Thr Arg Val Lys Phe Trp Glu Asp Ala Thr Lys Thr Leu His 515 520 525

Ser Gln 530

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<212> PRT

<213> Ctenocephalides felis

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Arg Phe Gln Ser Pro Lys Pro Ile Ser Asn Pro Lys Thr Gly Phe Val 50 55 60

Gln Ala Arg Thr Leu Gly Asp Lys Cys Phe Gln Glu Ser Leu Ile Tyr 65 70 75 80

Ser Tyr Ala Gly Ser Glu Asp Cys Leu Tyr Leu Asn Ile Phe Thr Pro 85 90 95

Glu Thr Val Asn Ser Ala Asn Asn Thr Lys Tyr Pro Val Met Phe Trp 100 105 110

Ile His Gly Gly Ala Phe Asn Gln Gly Ser Gly Ser Tyr Asn Phe Phe 115 120 125

Gly Pro Asp Tyr Leu Ile Arg Glu Gly Ile Ile Leu Val Thr Ile Asn 130 135 140

Tyr Arg Leu Gly Val Phe Gly Phe Leu Ser Ala Pro Glu Trp Asp Ile 145 150 155 160

His Gly Asn Met Gly Leu Lys Asp Gln Arg Leu Ala Leu Lys Trp Val 165 170 175

Tyr Asp Asn Ile Glu Lys Phe Gly Gly Asp Arg Glu Lys Ile Thr Ile Page 71 Ala Gly Glu Ser Ala Gly Ala Ala Ser Val His Phe Leu Met Met Asp 195 200 205

Asn Ser Thr Arg Lys Tyr Tyr Gln Arg Ala Ile Leu Gln Ser Gly Thr 210 220

Leu Leu Asn Pro Thr Ala Asn Gln Ile Gln Leu Leu His Arg Phe Glu 225 230 235 240

Lys Leu Lys Gln Val Leu Asn Ile Thr Gln Lys Gln Glu Leu Leu Asn 245 250 255

Leu Asp Lys Asn Leu Ile Leu Arg Ala Ala Leu Asn Arg Val Pro Asp 260 265 270

Ser Asn Asp His Asp Arg Asp Thr Val Pro Val Phe Asn Pro Val Leu 275 280 285

Glu Ser Pro Glu Ser Pro Asp Pro Ile Thr Phe Pro Ser Ala Leu Glu 290 295 300

Arg Met Arg Asn Gly Glu Phe Pro Asp Val Asp Val Ile Ile Gly Phe 305 310 315 320

Asn Ser Ala Glu Gly Leu Arg Ser Met Ala Arg Val Thr Arg Gly Asn 325 330 335

Met Glu Val His Lys Thr Leu Thr Asn Ile Glu Arg Ala Ile Pro Arg 340 345 350

Asp Ala Asn Ile Trp Lys Asn Pro Asn Gly Ile Glu Glu Lys Lys Leu 355 360 365

Ile Lys Met Leu Thr Glu Phe Tyr Asp Gln Val Lys Glu Gln Asn Asp 370 375 380

Asp Ile Glu Ala Tyr Val Gln Leu Lys Gly Asp Ala Gly Tyr Leu Gln 385 390 395 400

Gly Ile Tyr Arg Thr Leu Lys Ala Ile Phe Phe Asn Glu Phe Arg Arg 405 410 415

Asn Ser Asn Leu Tyr Leu Tyr Arg Leu Ser Asp Asp Thr Tyr Ser Val 420 425 430

Tyr Lys Ser Tyr Ile Leu Pro Tyr Arg Trp Gly Ser Leu Pro Gly Val Page 72

Ser His Gly Asp Asp Leu Gly Tyr Leu Phe Ala Asn Ser Leu Asp Val 450 455 460

Pro Ile Leu Gly Thr Thr His Ile Ser Ile Pro Gln Asp Ala Met Gln 465 470 475 480

Thr Leu Glu Arg Met Val Arg Ile Trp Thr Asn Phe Val Lys Asn Gly 485 490 495

Lys Pro Thr Ser Asn Thr Glu Asp Ala Ser Cys Asp Thr Lys Arg His 500 505 510

Leu Asn Asp Ile Phe Trp Glu Pro Tyr Asn Asp Glu Glu Pro Lys Tyr 515 520 525

Leu Asp Met Gly Lys Glu Asn Phe Glu Met Lys Asn Ile Leu Glu Leu 530 535

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Phe Arg Val Cys Asn Glu Gly Ser Ile Arg 565 570

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<211> 570

<212> PRT

<213> Ctenocephalides felis

<400> 55

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Thr Glu Gly Lys Pro Phe Arg Tyr Lys Asp His Lys Asn Asp Val Tyr 20 25 30

Cys Ser Tyr Leu Gly Ile Pro Tyr Ala Glu Pro Pro Ile Gly Pro Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Arg Phe Gln Ser Pro Lys Pro Ile Ser Asn Pro Lys Thr Gly Phe Val 50 55 60

Gln Ala Arg Ser Leu Gly Asp Lys Cys Phe Gln Glu Ser Leu Ile Tyr 65 70 75 80

Ser Tyr Ala Gly Ser Glu Asp Cys Leu Tyr Leu Asn Ile Phe Thr Pro 85 90 95 Page 73

Glu	Thr	Val	Asn 100	Ser	Ala	Asn	Asn	Thr 105	Lys	Tyr	Pro	Val	Met 110	Phe	Trp
Ile	His	Gly 115	Gly	Ala	Phe	Asn	Gln 120	Gly	Ser	GÍy	Ser	Туr 125	Asn	Phe	Phe
Gly	Pro 130	Asp	Tyr	Leu	Ile	Arg 135	Glu	Gly	Ile	Ile	Leu 140	Val	Thr	Ile	Asn
Туг 145	Arg	Leu	Gly	Val	Phe 150	Gly	Phe	Leu	Ser	Ala 155	Pro	Glu	Trp	Asp	Ile 160
His	Gly	Asn	Met	Gly 165	Leu	Lys	Asp	Gln	Arg 170	Leu	Ala	Leu	Lys	Trp 175	Val
Tyr	Asp	Asn	Ile 180	Glu	Lys	Phe	Gly	Gly 185	Asp	Arg	Asp	Lys	Ile 190	Thr	Ile
Ala	Gly	Glu 195	Ser	Ala	Gly	Ala	Ala 200	Ser	Val	His	Phe	Leu 205	Met	Met	Asp
Asn	Ser 210	Thr	Arg	Lys	Tyr	Tyr 215	Gln	Arg	Ala	Ile	Leu 220	Gln	Ser	Gly	Thr
Leu 225	Leu	Asn	Pro	Thr	Ala 230	Asn	Gln	Ile	Gln	Pro 235	Leu	His	Arg	Phe	Glu 240
Lys	Leu	Lys	Gln	Val 245	Leu	Asn	Ile	Thr	Gln 250	Lys	Gln	Glu	Leu	Leu 255	Asn
Leu	Asp	Lys	Asn 260	Gln	Ile	Leu	Arg	Ala 265	Ala	Leu	Asn	Arg	Val 270	Pro	Asp
Asn	Asn	Asp 275	His	Glu	Arg		Thr 280	Val	Pro	Val	Phe	Asn 285	Pro	Val	Leu
Glu	Ser 290	Pro	Glu	Ser	Pro	Asp 295	Pro	Ile	Thr	Phe	Pro 300	Ser	Ala	Leu	Glu
Arg 305	Met	Arg	Asn	Gly	Glu 310	Phe	Pro	Asp	Val	Asp 315	Val	Ile	Ile	Gly	Phe 320
Asn	Ser	Ala	Glu	Gly 325	Leu	Arg	Ser	Met	Pro 330	Arg	Val	Thr	Arg	Gly 335	Asn
Met	Glu	Val	Tyr 340	Lys	Thr	Leu	Thr	Asn 345	Ile	Glu	Arg	Ala	Ile 350	Pro	Arg

Asp Ala Asn Ile Trp Lys Asn Pro Asn Gly Ile Glu Glu Lys Lys Leu 360 Ile Lys Met Leu Thr Glu Phe Tyr Asp Gln Val Lys Glu Gln Asn Asp Asp Ile Glu Ala Tyr Val Gln Leu Lys Gly Asp Ala Gly Tyr Leu Gln Gly Ile Tyr Arg Thr Leu Lys Ala Ile Phe Phe Asn Glu Ile Lys Arg 410 Asn Ser Asn Leu Tyr Leu Tyr Arg Leu Ser Asp Asp Thr Tyr Ser Val Tyr Lys Ser Tyr Ile Leu Pro Tyr Arg Trp Gly Ser Leu Pro Gly Val 440 Ser His Gly Asp Asp Leu Gly Tyr Leu Phe Ala Asn Ser Leu Asp Val 455 Pro Ile Leu Gly Thr Thr His Ile Ser Ile Pro Gln Asp Ala Met Gln 475 Thr Leu Glu Arg Met Val Arg Ile Trp Thr Asn Phe Val Lys Asn Gly 485 490 495 Lys Pro Thr Ser Asn Thr Glu Asp Ala Ser Cys Asp Thr Lys Arg His 500 505 Leu Asn Asp Ile Phe Trp Glu Pro Tyr Asn Asp Glu Glu Pro Lys Tyr 515 520 525 Leu Asp Met Gly Lys Glu His Phe Glu Met Lys Asn Ile Leu Glu Leu Lys Arg Met Met Leu Trp Asp Glu Val Tyr Arg Asn Ala Asn Leu Arg 545 550 555 560 Phe Arg Val Cys Asn Glu Gly Ser Ile Arg 565 <210> 56 <211> 20 <212> DNA

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<213> Artificial sequence

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gtgcgtacac gtttactacc	20
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tgt att ttt ttg ttt agt ttt aat ttt ata aaa tgt gat tcc ccg act Cys Ile Phe Leu Phe Ser Phe Asn Phe Ile Lys Cys Asp Ser Pro Thr 10 15 20	101
gta act ttg ccc caa ggc gaa ttg gtt gga aaa gct ttg acg aac gaa Val Thr Leu Pro Gln Gly Glu Leu Val Gly Lys Ala Leu Thr Asn Glu 25 30 35 40	149
aat gga aaa gag tat ttt agc tac aca ggt gta cct tat gct aaa cct Asn Gly Lys Glu Tyr Phe Ser Tyr Thr Gly Val Pro Tyr Ala Lys Pro 45 50 55	197
cct gtt gga gaa ctt aga ttt aag cct cca cag aaa gct gag cca tgg Pro Val Gly Glu Leu Arg Phe Lys Pro Pro Gln Lys Ala Glu Pro Trp 60 65 70	245
caa ggt gtt ttc aac gcc aca tta tac gga aat gtg tgt aaa tct tta Gln Gly Val Phe Asn Ala Thr Leu Tyr Gly Asn Val Cys Lys Ser Leu 75 80 85	293
aat ttc ttc ttg aag aaa att gaa gga gac gaa gac tgc ttg gta gta Asn Phe Phe Leu Lys Lys Ile Glu Gly Asp Glu Asp Cys Leu Val Val 90 95 100	341
aac gtg tac gca cca aaa aca act tct gat aaa aaa ctt cca gta ttt Asn Val Tyr Ala Pro Lys Thr Thr Ser Asp Lys Lys Leu Pro Val Phe 105 110 115 120	389
ttc tgg gtt cat ggt ggt ggt ttt gtg act gga tcc gga aat tta gaa Phe Trp Val His Gly Gly Gly Phe Val Thr Gly Ser Gly Asn Leu Glu 125 130 135	437
ttc caa agc cca gat tat tta gta rat ttt gat gtt att ttc gta act Phe Gln Ser Pro Asp Tyr Leu Val Xaa Phe Asp Val Ile Phe Val Thr 140 145 150	485

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			gga Gly								533
			gta Val								581
			att Ile 190								629
			tct Ser								677
			act Thr				 _	_		_	.725
			cca Pro								773
			gag Glu			_					821
			tta Leu 270								869
			aca Thr								917
_		_	aaa Lys	_					_	_	965
			aga Arg								1013
			aac Asn								1061
			gag Glu 350								1109
			gaa Glu								1157
			aaa Lys								1205
			cag Gln								1253

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ttt act aga ggt gtt gac aag cat gtc aag ttg tct gtg gag aaa caa Phe Thr Arg Gly Val Asp Lys His Val Lys Leu Ser Val Glu Lys Gln 410 415 420	1301
gac gaa cca gtt tat tat gaa tat tcc ttc tcg gaa agt cat cct Asp Glu Pro Val Tyr Tyr Glu Tyr Ser Phe Ser Glu Ser His Pro 425 430 435 440	1349
gca aaa gga aca ttt ggt gat cat aat ctg act ggt gca tgc cat gga Ala Lys Gly Thr Phe Gly Asp His Asn Leu Thr Gly Ala Cys His Gly 445 450 455	1397
gaa gaa ctt gtg aat tta ttc aaa gtc gag atg atg aag ctg gaa aaa Glu Glu Leu Val Asn Leu Phe Lys Val Glu Met Met Lys Leu Glu Lys 460 465 470	1445
gat aaa cct aat gtt cta tta aca aaa gat aga gta ctt gcc atg tgg Asp Lys Pro Asn Val Leu Leu Thr Lys Asp Arg Val Leu Ala Met Trp 475 480 485	1493
act aac ttc atc aaa aat gga aat cct act cct gaa gta aca gaa tta Thr Asn Phe Ile Lys Asn Gly Asn Pro Thr Pro Glu Val Thr Glu Leu 490 495 500	1541
ttg cca gtt aaa tgg gaa cct gcc aca aaa gac aag ttg aat tat ttg Leu Pro Val Lys Trp Glu Pro Ala Thr Lys Asp Lys Leu Asn Tyr Leu 505 510 515 520	1589
aac att gat gcc acc tta act ttg gga aca aat cct gag gca aac cga Asn Ile Asp Ala Thr Leu Thr Leu Gly Thr Asn Pro Glu Ala Asn Arg 525 530 535	1637
gtc aaa ttt tgg gaa gac gcc aca aaa tct ttg cac ggt caa taa Val Lys Phe Trp Glu Asp Ala Thr Lys Ser Leu His Gly Gln 540 545 550	1682
taatttatga aaattgtttt aaatacttta ggtaatatat taggtaaata aaaattaaaa	1742
aataacaatt tttatgtttt atgtattggc ttatgtgtat cagttctaat tttatttatt	1802
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tgtttttagc aaaatttcca atagatatgt tatattaagt actctgaagt atttttatat	1922
atacactaaa atcagtaaaa atacattaac taaaaatata agatattttc aataattttt	1982
tttaaagaaa ataccaaaaa taaagtaaaa ttccaaacgg aatttttgtt taacttaaaa	2042
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atattttgat aatacgtatt tatatttaaa ataaaattat gt	2144

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<220>

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<222> (145)..(145)
<223> The 'Xaa' at location 145 stands for Asp, or Asn.

Met Ser Arg Val Ile Phe Leu Ser Cys Ile Phe Leu Phe Ser Phe Asn $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15 \hspace{1.5cm} .$

Phe Ile Lys Cys Asp Ser Pro Thr Val Thr Leu Pro Gln Gly Glu Leu 20 25 30

Val Gly Lys Ala Leu Thr Asn Glu Asn Gly Lys Glu Tyr Phe Ser Tyr 35 40 45

Thr Gly Val Pro Tyr Ala Lys Pro Pro Val Gly Glu Leu Arg Phe Lys 50 55 60

Pro Pro Gln Lys Ala Glu Pro Trp Gln Gly Val Phe Asn Ala Thr Leu 65 70 75 80

Tyr Gly Asn Val Cys Lys Ser Leu Asn Phe Phe Leu Lys Lys Ile Glu 85 90 95

Gly Asp Glu Asp Cys Leu Val Val Asn Val Tyr Ala Pro Lys Thr Thr 100 105 110

Ser Asp Lys Lys Leu Pro Val Phe Phe Trp Val His Gly Gly Phe 115 120 . 125

Val Thr Gly Ser Gly Asn Leu Glu Phe Gln Ser Pro Asp Tyr Leu Val 130 135 140

Xaa Phe Asp Val Ile Phe Val Thr Phe Asn Tyr Arg Leu Gly Pro Leu 145 150 155 160

Gly Phe Leu Asn Leu Glu Leu Glu Gly Ala Pro Gly Asn Val Gly Leu 165 170 175

Leu Asp Gln Val Ala Ala Leu Lys Trp Thr Lys Glu Asn Ile Glu Lys 180 185 190

Phe Gly Gly Asp Pro Glu Asn Ile Thr Ile Gly Gly Val Ser Ala Gly 195 200 205

Gly Ala Ser Val His Tyr Leu Leu Leu Ser His Thr Thr Gly Leu 210 215 220

Tyr Lys Arg Ala Ile Ala Gln Ser Gly Ser Ala Phe Asn Pro Trp Ala 225 230 235 240

Phe Gln Arg His Pro Val Lys Arg Ser Leu Gln Leu Ala Glu Ile Leu 245 250 255
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Gly	His	Pro	Thr 260	Asn	Asn	Thr	Gln	Asp 265	Ala	Leu	Glu	Phe	Leu 270	Gln	Lys
Ala	Pro	Val 275	Asp	Ser	Leu	Leu	Lys 280	Lys	Met	Pro	Ala	Glu 285	Thr	Glu	Gly
Glu	Ile 290	Ile	Glu	Glu	Phe	Val 295	Phe	Val	Pro	Ser	Ile 300	Glu	Lys	Val	Phe
Pro 305	Ser	His	Gln	Pro	Phe 310	Leu	Glu	Glu	Ser	Pro 315	Leu	Ala	Arg	Met	Lys 320
Ser	Gly	Ser	Phe	Asn 325	Lys	Val	Pro	Leu	Leu 330	Val	Gly	Phe	Asn	Ser 335	Ala
Glu	Gly	Leu	Leu 340	Phe	Lys	Phe	Phe	Met 345	Lys	Glu	Lys	Pro	Glu 350	Met	Leu
Asn	Gln	Ala 355	Glu	Ala	Asp	Phe	Glu 360	Arg	Leu	Val	Pro	Ala 365	Glu	Phe	Glu
Leu	Val 370	His	Gly	Ser	Glu	Glu 375	Ser	Lys	Lys	Leu	Ala 380	Glu	Lys	Ile	Arg
Lys 385	Phe	Tyr	Phe	Asp	Asp 390	Lys	Pro	Val	Pro	Glu 395	Asn	Glu	Gln	Lys	Phe 400
Ile	Asp	Leu	Ile	Gly 405	Asp	Ile	Trp	Phe	Thr 410	Arg	Gly	Val	Asp	Lys 415	His
Val	Lys	Leu	Ser 420	Val	Glu	Lys	Gln	Asp 425	Glu	Pro	Val	Tyr	Tyr 430	Tyr	Glu
Tyr	Ser	Phe 435	Ser	Glu	Ser	His	Pro 440	Ala	Lys	Gly	Thr	Phe 445	Gly	Asp	His
Asn	Leu 450	Thr	Gly	Ala	Cys	His 455	Gly	Glu	Glu	Leu	Val 460	Asn	Leu	Phe	Lys
Val 465	Glu	Met	Met	Lys	Leu 470	Glu	Lys	Asp	Lys	Pro 475	Asn	Val	Leu	Leu	Thr 480
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	aaa Lys 50															192
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	gat Asp															288
	cct Pro															336
	tca Ser															384
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	gtt Val															528
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	gta Val															624
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	aat Asn															720
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(,